

4.20 CUMULATIVE IMPACTS ANALYSIS

In accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), this analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future projects within the Project area that were identified at the time of publication of the Notice of Intent/Notice of Preparation in March 2004 and updated in December 2005. Cumulative effects can result from individually minor but collectively significant actions taking place over time. For example, a project may remove only a small area of land from agricultural production, but it may be part of a vast conversion of agricultural land in the area.

Projects that may have similar effects were identified through consultation with planning and engineering departments of local governments, the Ventura County Air Pollution Control District, the California State Lands Commission (CSLC), the International Cable Protection Committee, Minerals Management Service (MMS), and the State of California's Office of Planning and Research. Only projects that would occur in the vicinity of the proposed Project and/or within a similar time frame are considered.

As discussed in Chapter 2, "Description of the Proposed Action," the proposed Project consists of four main types of facilities:

- An offshore deepwater port liquefied natural gas (LNG) import terminal (the floating storage and regasification unit [FSRU]) that would be anchored and moored on the ocean floor for the life of the Project;
- Offshore pipelines;
- A shore crossing, using horizontal directional boring (HDB) below the beach; and
- Onshore pipelines, and related facilities, to connect to the existing onshore natural gas infrastructure.

Projects that may have similar impacts and that, together with the project, may have cumulative environmental impacts are described below but generally include port expansion, offshore mineral development and processing, residential development, and military operations. Table 4.20-1 summarizes proposed and current projects in the area of Billiton LNG International Inc.'s (BHPB or the Applicant) proposed Project that could, in combination with the proposed Project, result in a cumulative impact.

This section also addresses comments received during the public scoping in March 2004 and during the public review period for the October 2004 Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Comments included possible construction of desalination plants at Ormond Beach; Crystal Energy's Clearwater Port project and other LNG projects; increased vessel traffic in the Santa Barbara Channel/expansion of the Port of Long Beach/Los Angeles; and the Project's contribution to global warming.

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Offshore, Maritime, and Military				
Crystal Energy LNG Importation Facility	Construction and conversion	Conversion of existing Platform Grace to an LNG receiving and processing facility	Platform Grace, located 10.5 nautical miles (NM) (12.1 miles or 19.5 km) offshore of Ventura County in Federal waters	Application submitted
Hubbs-SeaWorld Research Institute (HSWRI)	Mariculture	Marine aquaculture (mariculture) project for three years	Platform Grace, located 10.5 NM (12.1 miles or 19.5 km) offshore of Ventura County in Federal waters	Application submitted
Long Beach LNG Import Terminal	LNG Facility	Construction and operation of an onshore LNG receiving terminal at the Port of Long Beach	Port of Long Beach	Draft Environmental Impact Report (EIR) under review
Vandenberg Air Force Base (VAFB)	Operations	Launch and detect satellites and ICBM missiles	98,400 acres (39,822 ha) about 50 miles (80.5 km) northwest of Santa Barbara	Finding of No Significant Impact signed 02/02/00
Channel Islands National Marine Sanctuary (CINMS)	Management Plan update and boundary revision analysis	Proposed expansion of the boundaries of the sanctuary	1,252 NM ² (1,660 square miles, 4299 square km) – the boundaries extend from the mean high tide to 6 NM (6.9 miles, 11.1 km) offshore from Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara Islands	Draft Management Plan and Environmental Impact Statement (EIS) in development – supplemental EIS will address potential boundary changes
Offshore Oil and Gas Activities	Exploration, production, and decommissioning	Offshore oil and gas leases	In Federal waters offshore of Santa Barbara, Ventura, Los Angeles, and Orange Counties	Development of 36 non-producing leases pending litigation
Point Mugu Sea Range	Operations	Testing and Training Range	Point Mugu Sea Range, San Clemente Island (SCI), and San Nicholas Island	Current activity
SOCAL Range Complex	Operations	Training ranges	SCI and associated training ranges	Current activity

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Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Port of Hueneme	Operations and expansion	Break bulk cargo shipping facility	Port of Hueneme, Ventura County	Current activity
City of Oxnard				
<i>New Residential and Industrial Development in the City of Oxnard^a</i>				
Gonzales Condominiums	New residential development	36-unit condominium units	457 Gonzales Road	Approved
Rose/Pleasant Valley	New residential development	98 condominiums/12 live-work units	Rose Avenue and East Pleasant Valley Drive	Incomplete application
The Gables	New residential development	340 apartment units	2000 E. Gonzales Road 213-0-031-25	Proposed
Paseo Mercado Apartment	New residential development	456 rental apartment units	1801 Auto Center Drive 144-141-015, 025, 035	Proposed
Aviara Lane	New residential development	28 single-family homes	Gonzales Road southwest of Belmont Land and Merion Way	Plans are being checked
Meridian Office Partners	New commercial development	New office buildings	City of Oxnard, Outlet Center Drive and Gonzales Road, 1900 Outlet Center Drive, 7,599 sq. ft. (706 m ²), 2,906 sq. ft. (270 m ²), 2,906 sq. ft. (270 m ²), 4,545 sq. ft. (422 m ²)	Proposed
Carriage Square	Demolition and redevelopment	Commercial/retail facility	341 W. Gonzales Road	Proposed
St. John's Medical Office Building	3-story building	Medical office building	1600 N. Rose Avenue	Proposed
Subic Office Renovation	Renovation of existing building	Office building	2103 E. Gonzales Road	Proposed
Taco Bell Renovation	Demolition and reconstruction	Commercial/retail facility	1725 N. Oxnard Boulevard	Proposed
Unnamed	New self-storage buildings	Adding 8 new self-storage buildings	2400 Auto Center Drive	Plan check

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Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Ventura Orthopedic	Medical building	New Single-Story medical building	2221/2231 Wankel Way	Approved
Todey Lincoln Mercury	Expansion	Expansion and new Showroom	1601 E. Ventura Boulevard	Approved
Seagate	New buildings	3 office, industrial, warehouse buildings	Discovery Drive (North of Sturgis Road)	Proposed
Unnamed	New buildings	2 Spec Industrial Buildings	3301 Sturgis Road	Proposed
Haas Automation	New building	New Industrial Building	2700 Challenger Place	Proposed
RIF 1-Oxnard	New building	Single tilt-up industrial building	2220 Camino Del Sol	Plan check
Unnamed	New building	Single tilt-up industrial building	2301 Latigo Avenue	Plan check
Unnamed	New building	Single tilt-up industrial building	3000 Camino Del Sol	Approved
Sunbelt Professional Center	New office buildings	2 new office buildings	North of Gonzales Road between Rice Ave and Solar Drive	Proposed
Cal Coast Machinery Phase II	New building	Multi-tenant industrial building	Corner of Eastman Avenue and Rice Avenue	Proposed
Associated Ready Mix	New building	Single tilt-up industrial building	3450 Sturgis Road	Proposed
Unnamed	New buildings	Two industrial buildings	720 Arcturus	Plan check
Blending Station No. 3	Well and a water blending facility	4 wells and a water blending facility	1700 Solar Drive	Approved
<i>Other Projects in the City of Oxnard</i>				
Ormond Beach Specific Plan Project	New residential developments	920 acres – 1,283 residential units, elementary school, community park, 10-acre lake, mixed use commercial, light industrial, business park	Extends from Edison Road on the west to Olds and Arnold Road on the east, West Pleasant Valley Drive on the north and the Pacific Ocean to the south	Plan and EIR will be developed

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Calleguas Water District and Reliant Energy	Management project	Salination management project to discharge brine using the existing Reliant outfall	Reliant Energy Ormond Beach	Agreement subject to approval of CSLC – Draft EIR/ Environmental Assessment
GREAT	Construction and expansion of water recycling plants and installation of wells	Installation of tertiary treatment of Oxnard Wastewater Treatment Plant Water, expansion of the Brackish Water Reclamation Demonstration Facility, aquifer storage, and recovery wells	Perkins Road south of Hueneme Road – intersection of Hueneme and Arnold Roads	In progress
Northshore at Mandalay Bay	Residential development/ land conservation	(1) Remediation of onsite soil and groundwater contamination; (2) importation of approximately 40,000 cubic yards of clean soil; (3) subdivision and construction of 183 single-family homes, 109 detached condominiums, and associated infrastructure including streets, sidewalks, landscaping and utilities; (4) creation of landscaped buffer areas, including public bicycle-pedestrian trail, and a Resource Protection/Milk-Vetch Preservation Area; and (5) implementation of on- and off-site resource protection measures.	Mandalay Beach – West Fifth Ave and Harbor Boulevard	Notice of Determination – approved
City of Oxnard College Park Master Plan	Expansion of recreational facilities	Conceptual site plan identifying probable locations of future buildings, picnic areas, soccer, softball/baseball fields, children's play areas, basketball courts, and an enhanced wetland habitat	3250 South Rose Avenue, southeast corner of Channel Islands Boulevard and Rose Avenue	Final EIR, Draft Mitigation Monitoring and Reporting Program

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
California State Coastal Conservancy Ormond Beach Restoration Project	Wetlands and habitat restoration	Restoration of wetlands and habitat at Ormond Beach	Ormond Beach	Acquiring additional land – feasibility study underway
City of Santa Clarita and Vicinity				
River Park Development	Development	A 695.4-acre (269 ha) residential and commercial development with 1,183 dwelling units, trail system, 29-acre park on the Santa Clara River	City Of Santa Clarita	EIR, construction expected 2005–2010
Natural River Management Plan	Management plan	Approved Natural River Management Plan (NRMP) for the Santa Clara River	Los Angeles County	Finalized November 1998
Newhall Ranch Specific Plan	Development	The Newhall Ranch Specific Plan covers approximately 11,963 acres (4,841 ha), including 21,615 dwelling units on 4,835 acres (1,957 ha), a golf course, parks, schools, and retail and commercial uses. The build-out would occur over 25 to 30 years.	Los Angeles County	Approved Plan and EIR
Cross Valley Connector Project	Traffic improvement	Plan to ease traffic, achieved by the connection of Newhall Ranch Road and Golden Valley Road. The Connector will provide additional travel options from Valencia to Canyon Country and a direct connection between the I-5/SR-126 on the west side of the City to the SR-14/Golden Valley Interchange on the east.		Construction to begin mid-March 2006 – anticipated completion in 2008

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Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Castaic Junction Project	Traffic improvement	Improvement project on the Golden State Freeway (I-5)/State Route 126 (SR-126) Interchange in the Santa Clarita Valley	Santa Clarita Valley	Construction in progress
Bouquet Canyon Bridge Widening Project	Traffic improvement	Widen the Bouquet Canyon Road Bridge from its current 6 lanes to 8 lanes with a protected bike lane	City of Santa Clarita	Construction in progress – anticipated completion in 2006
West Creek Project	Development	Mixed residential and commercial development in the Santa Clarita Valley area of northern Los Angeles County. The project includes 2,545 housing units, 180,000 square feet (16,722 m ²) of commercial retail space, and 46 acres of community facilities.	Santa Clarita Valley	Approved
North Valencia II Specific Plan	Development	Annexation of 872 acres (353 ha) for mixed-use development	City of Santa Clarita	Near completion
Soledad Village	Residential development	30 acre mixed residential and commercial development. A total of 437 residential units would be developed including 275 attached townhomes and 162 triplexes. An 8,000-square foot retail building and a 1,200-square foot recreational center would be located at the northeast corner of Gladding Way and Soledad Canyon Road. In addition, there would be 2.5 acres of open space.	City of Santa Clarita	Proposed
Keystone	Residential development	246-acre development with 979 dwelling units that consists of 96 single-family lots, 216 multi-family apartment units, and 667	City of Santa Clarita	Proposed

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Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
		townhouse units and finished (graded) lots for a 1,200 to 1,600-student and 70-faculty/staff junior high school, and an approximately 30,476-square foot community/fitness YMCA center. Build-out of the project includes the extension of Golden Valley Road to Newhall Ranch Road; however, approximately 1,890-feet of Golden Alley Road is located outside the project boundaries.		
Whittaker Bermite Remediation	Environmental remediation	Former explosives manufacturing facility on 996 acres: OU-1 – Remedial Action Plan being implemented (soil vapor extraction and excavate and treat soil). OU-2 – Preparation of remedial investigation report. OU-3 – Preparation of remedial investigation report. OU-4 Completed geophysical surveys. OU-5 –Updating remedial investigation report. OU-6– Preparation of remedial investigation report.	City of Santa Clarita	Ongoing remediation
Placerita Canyon Sewer Backbone Project	Sewer installation	Construction of 2.3 linear miles of mainline and lateral sewer line	City of Santa Clarita – Community of New Hall	Final EIR
Henry Mayo Newhall Memorial	Hospital expansion	Phased demolition and expansion. Phase I (2007). Demolition of 8,000 square foot building; removal of	City of Santa Clarita	Under review

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Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Hospital Expansion		parking area, construction of new medical building, parking structure, and reconfiguration of office space. Buildout program (2030) expansion of medical campus including new office buildings, heliport, central plant, new patient towers, new parking structures, and demolition of two buildings.		

Sources: Crystal Energy 2005; California Energy Commission (CEC) Staff 2005; MacWilliams 2006; Lane 2006; Parisi 2004; Parks 2004; Berg 2004; City of Oxnard 2006; CEQAnet 2005; Brand 2005; Impact Sciences 2004; City of Santa Clarita 2005a, 2005b; USDOT et al. 2004; Boxhall 2006; Tetra Tech Inc. 2003; Christopher A. Joseph & Associates 2005; Whittaker Berrite 2006; RBF Consulting 2005a, 2005b.

4.20.1 Other Offshore Projects

4.20.1.1 Crystal Energy LLC Clearwater Port LNG Import Facility

Crystal Energy is proposing to use Platform Grace, an existing oil and gas platform currently owned by Venoco, Inc., as an LNG import and regasification facility named Clearwater Port. The platform is located approximately 10.5 nautical miles (NM) (12.1 miles or 19.5 kilometers [km]) offshore in Federal waters and approximately 11.3 NM (13 miles or 20.9 km) west of Oxnard. Clearwater Port would require the installation of several new components on or adjacent to the platform, including a Satellite Service Platform floating docking system, an LNG transfer system, a cool-down system, six LNG pumps, and six LNG vaporizers, as well as an upgrade to the platform's power production capability. Natural gas would not be stored on the platform. An 11.3-NM (13-mile or 20.9 km), 32-inch (0.81-meter [m]) diameter subsea pipeline would be installed from the platform to the Reliant Energy Mandalay Generating Station in an existing pipeline corridor (CEC Staff 2005). Once onshore, the pipeline would extend another 12 miles (19.3 km) from the Reliant Energy Mandalay Generating Station to the Southern California Gas Company (SoCalGas) Center Road Valve Station (CEC Staff 2005). The specific route to the valve station has not been selected to date.

Crystal Energy plans to have two to four LNG carriers dock at Platform Grace per month. Offloading would take approximately four days. LNG would be imported from Alaska, Southeast Asia, or the Middle East (Crystal Energy 2005); therefore, the exact route to Platform Grace is uncertain. It is likely that two or three dedicated tugs would be used to assist the carrier with docking. In addition, there would be marine traffic going to and from the platform with supplies and crew.

4.20.1.2 Hubbs-SeaWorld Research Institute Grace Mariculture Project

The Hubbs-SeaWorld Research Institute (HSWRI), with support from Chevron Environmental Management Corporation and Venoco, Inc., is seeking approvals to operate a marine aquaculture (mariculture) project for three years at Venoco's Platform Grace, which is located 10.5 NM (12.1 miles or 19.5 km) offshore of Ventura County in Federal waters. Platform Grace would provide infrastructure and services for the research proposed, including available deck space, utilities, and daily access by supply boats from Port Hueneme. As proposed, the roughly 640-acre (259 hectare [ha]) project would include four submerged cages around the platform as well as tanks on the main platform deck for hatchery and nursery operations. Species produced would include finfish such as white seabass, striped bass, California halibut, and California yellowtail and bluefin tuna, as well as shellfish such as red abalone and mussels.

The HSWRI Grace Mariculture Project will be required to undergo an environmental review under NEPA; however, to date it is still awaiting commencement of the process. The HSWRI Grace Mariculture Project is located approximately 29 NM (33.4 miles or 53.7 km) northwest of the FSRU and 15 NM (17.3 miles or 27.8 km) west-northwest of the nearest alternative or proposed pipeline. Due to the location of the HSWRI project and the distance between the HSWRI project and the Cabrillo Port Project, activities

associated with construction, operation, and vessel traffic would not be affected; consequently, no impacts to the HSWRI Grace Mariculture Project are anticipated.

4.20.1.3 Port of Long Beach Sound Energy Solutions Onshore LNG Terminal

Sound Energy Solutions (SES) has proposed constructing and operating a 27-acre (10.9 ha) onshore LNG receiving terminal at Pier T at the Port of Long Beach. The facility would include a LNG carrier berth, two 160,000-cubic meter storage tanks, vaporization facilities, a natural gas liquids recovery unit, a natural gas sendout pipeline, natural gas liquids send-out pipelines, and LNG truck loading facilities. A new 2.3-mile natural gas pipeline connecting to an existing SoCalGas pipeline would be constructed. The project would have an average natural gas throughput of 700 million cubic feet (19.8 million m³) per day (CEC Staff 2005). The proposed SES project is not in the vicinity of the proposed Project; therefore, the only potential cumulative impact associated with this facility and the proposed Project would be a regional increase in vessel traffic, because trans-Pacific or the southern LNG carriers routes to both Ports could overlap. However, the increase in local vessel traffic for the SES project would be concentrated at the Port of Long Beach, and the increase in vessel traffic for the Project would be in the Santa Barbara Channel Traffic Separation Scheme (TSS).

4.20.1.4 Vandenberg Air Force Base Ongoing Operations

Vandenberg Air Force Base (VAFB), the headquarters for the 30th Space Wing, occupies approximately 98,400 acres (39,822 ha) and is located about 50 miles (80.5 km) northwest of Santa Barbara. The U.S. Air Force's primary missions at VAFB are to launch and track satellites in space and to test and evaluate strategic intercontinental ballistic missile (ICBM) systems (U.S. Navy 2002). Existing operations at VAFB are part of the project baseline. Given that most activities associated with VAFB are space launches, activities at VAFB would not contribute cumulative effects in conjunction with the proposed Project and therefore are not discussed further.

4.20.1.5 Channel Islands National Marine Sanctuary Boundary Expansion

The Channel Islands National Marine Sanctuary (CINMS) encompasses approximately 1,252 square NM (1660 square miles, 4299 square km) surrounding the five northern Channel Islands and several offshore rocks. The sanctuary boundaries extend from the mean high tide to 6 NM (6.9 miles, 11.1 km) offshore surrounding Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara Islands, Richardson Rock, and Castle Rock. The management plan for CINMS was put into effect in 1982 and currently is being updated.

The management plan review process includes development of a supplemental EIS that will contain a suite of sanctuary boundary alternatives, including the status quo boundary, and environmental and socioeconomic impact analyses of those alternatives. The updated CINMS management plan will include such topics as public awareness, conservation science, and marine zoning. Any regulatory or document changes

adopted as part of the management plan review process would apply to the current CINMS boundaries.

Depending on the boundary alternative selected, Cabrillo Port may or may not be within the sanctuary boundary. The installation of the FSRU and pipeline would not preclude the sanctuary from including this area in its boundaries (MacWilliams 2006). However, if the proposed FSRU location is within any of the boundary alternatives, this factor will be taken into consideration by CINMS when making final decisions about selecting a boundary alternative (Mobley 2004; CINMS 2005).

4.20.1.6 Offshore Oil and Gas Leasing

Currently, there are 79 active Outer Continental Shelf (OCS) oil and gas leases in the Pacific OCS region. These include 43 producing leases and 36 non-producing leases offshore of San Luis Obispo, Santa Barbara, and Ventura Counties and four producing leases off of Los Angeles and Orange Counties (MMS 2005). Production from these leases is expected to continue for approximately the next five to 20 years. The MMS currently has no proposals for decommissioning offshore facilities. Development of the 36 non-producing leases is uncertain due to ongoing litigation (Lane 2006). In addition, four undeveloped leases are under appeal (MMS 2005). The MMS has submitted six final environmental assessments to grant lease suspensions for five production leases and one operations lease and ten Consistency Determinations for the California Coastal Commission, which has made an initial evaluation and has requested more information (California Coastal Commission 2005).

4.20.1.7 Point Mugu Sea Range Operations

The Point Mugu Sea Range is used by U.S. and allied military services to test and evaluate sea, land, and air weapons systems; to provide realistic training opportunities; and to maintain operational readiness of these forces by providing a safe, operationally realistic, and thoroughly instrumented testing and training environment. The Point Mugu Sea Range supports the following types of testing and training:

- Air-to-air testing;
- Air-to-surface testing;
- Surface-to-air testing;
- Surface-to-surface testing;
- Subsurface-to-surface testing;
- Fleet training exercises;
- Small scale amphibious warfare training;
- Special warfare training; and
- Theater missile defense testing and training.

Operations on the Point Mugu Sea Range involve aircraft, ships and boats, unmanned aerial and surface targets, missiles and guns (Parisi 2004).

4.20.1.8 SOCAL Range Complex

The Southern California Operations Area (SOCAL) Range Complex is immediately south of the Point Mugu Sea Range. It includes the following training ranges: San Clemente Island (SCI), the Southern California Anti-submarine warfare Range (SOAR), FLETA HOT, the shallow water training range (SWTR), and the shore bombardment range (SHOBA).

SCI is the tactical training range complex supporting the SOCAL Range Complex. The SCI land, air, and sea ranges provide the U.S. Navy, U.S. Marine Corps, and other military services with space and facilities that they use to conduct readiness training. The SOAR Range supports aircraft, surface ships, and submarines conducting basic through advanced level training against threats from submarines. SWTR is a proposed underwater range that may be installed in the next two years. FLETA HOT is a live-fire exercise range and an aircraft emergency jettison area. SHOBA is a shore bombardment and gunnery range for naval gunfire support (Tahimic 2004; Parks 2004).

LNG carriers would transit the SOCAL Range Complex on the course to the FSRU. The cumulative impacts of activities on the Complex are only applicable to marine traffic because of its distance from the Project area and are discussed in the marine traffic cumulative impact analysis (Section 4.20.3.3).

4.20.1.9 Port of Hueneme Warehouse Additions

The Port of Hueneme is a break bulk cargo shipping facility. Most of its cargo comprises automobiles, fruit, and liquid fertilizer. The Port receives an annual average of 145 automobile ships, 130 refrigerated-cargo conventional vessels, and 12 liquid fertilizer cargo vessels. Six vessels provide daily support to the offshore oil platforms. Three tugs operate at the Port of Hueneme. A 30,000 square foot (2,787 square meters [m²]) refrigerated warehouse has recently been added to the existing facility and another one is scheduled to be built, which means that two additional refrigerated cargo vessels will be using the Port of Hueneme weekly (Berg 2004). No additional expansions are anticipated.

4.20.1.9 Port of Los Angeles/Long Beach Expansions

Currently, the Port of Long Beach receives approximately 3,100 ship calls for a total of approximately 6,200 inward and outward ship movements annually. By 2020, the total of inward and outward ship movements at Port of Long Beach is anticipated to be between 10,400 and 15,200 (Port of Long Beach 2005). The anticipated annual increases in vessel traffic to the Ports of Los Angeles and Long Beach between 2000 and 2020 include the following:

- A 5 to 6.6 percent increase for containerized cargo vessels traffic;
- A 2.3 to 4.1 percent increase for automobile cargo vessel traffic;

- A 6.1 to 7.5 percent increase for neo-bulk and break-bulk cargo vessel traffic; and
- A 1.2 to 2.2 percent increase for dry bulk cargo vessel traffic.

The anticipated decrease in liquid bulk cargo vessel traffic is 0.89 to 0.38 percent (Port of Long Beach 2005). Some of this traffic would be traveling the Santa Barbara Channel TSS, but a portion of it would be from the south and transpacific.

4.20.2 Other Onshore Projects

4.20.2.1 Ventura County

There are no pending Ventura County General Plan Amendments to the land use designations near the proposed pipeline routes. The Public Facilities Map (regional road network) was amended in November 2005. Roads in the vicinity of the Project or the alternatives that are scheduled to be widened by 2010 include portions of Hueneme Road, Pleasant Valley Road, Rice Avenue, and Santa Clara Avenue (Smith 2005).

4.20.2.2 City of Oxnard

Construction of Residential Units (Ormond Beach Specific Plan)

The City of Oxnard has received a Notice of Preparation for the Ormond Beach Specific Plan from a developer that is planning to develop a 920-acre community extending from Edison Road on the west to Olds and Arnold Road on the east, West Pleasant Valley Drive on the north and the Pacific Ocean to the south. The community would include residences, schools, parks, and commercial and light industrial facilities (CEQAnet 2005; City of Oxnard 2006). The proposed onshore pipeline route would be located in East Hueneme Road in the middle of the proposed development. Other residential development plans along or near the proposed pipeline route that are filed with the City of Oxnard include: 98 condominiums at Rose Avenue and East Pleasant Valley Road and a 456-unit apartment building at 1801 Auto Center Road.

Other planned commercial and industrial developments include:

- Office and storage buildings at Outlet Center Drive, Oxnard Boulevard, Rose Avenue, Wankel Way, Lombard Street, Ventura Boulevard, and Gonzales Road, and
- Industrial facilities on Sturgis Road, Challenger Place, Camino Del Sol, Graves Avenue, Latigo Avenue, Arcturus, and Solar Drive (City of Oxnard 2006).

California State Coastal Conservancy Ormond Beach Wetland Restoration Project

In June 2002, the California State Coastal Conservancy acquired 265 acres (107 ha) of land adjacent to the Reliant Energy Ormond Beach Generating Station from Southern California Edison for a wetland restoration project. This project is a component of a statewide wetland restoration project: Federal and State resources agencies

1 participating in the Southern California Wetlands Recovery Project are seeking to
2 acquire at least 750 acres (304 ha) more of land at Ormond Beach to meet their goals
3 of restoring coastal wetlands, dunes, and upland habitat along Ormond Beach.

4 In 2002, the Coastal Conservancy acquired a 265-acre former tank farm from Southern
5 California Edison. In June 2005, 276 acres of degraded were acquired from the City of
6 Oxnard and the Metropolitan Water District. The Conservancy has reserved funds to
7 acquire an adjoining 210 acres of former wetlands that are currently owned and farmed
8 by Southland Sod. The owner of Southland Sod has offered to sell 340 acres (138 ha)
9 to the Conservancy conditioned upon his purchase of other suitable agricultural land
10 where he can transfer his operations. This land is northeast of the Reliant Energy
11 Ormond Beach Generating Station. The Conservancy has funded the development of a
12 restoration feasibility study for Ormond Beach and adjoining wetlands, which will be
13 completed in Spring 2006 (Brand 2005).

14 Lastly, the Coastal Conservancy is considering acquiring approximately 300 acres (121
15 ha) of degraded wetlands north of Naval Base Ventura County (NBVC) Point Mugu
16 (Brand 2004).

17 **Salination Management Project**

18 Reliant Energy has signed a licensing agreement with Calleguas Water District for a
19 salination management project to discharge brine using the Reliant Energy Ormond
20 Beach Generating Station outfall line. The agreement is subject to CSLC approval of
21 the agreement. The proposed water pipeline and facility is within the same area as the
22 Applicant's proposed pipeline located on Coastal Conservancy property.

23 **Ground Water Recharge Enhancement and Treatment Program**

24 The City of Oxnard Water Division is in the process of implementing its Ground Water
25 Recharge Enhancement and Treatment Program (GREAT), which is designed to help
26 meet the City's water supply needs. GREAT involves wastewater recycling,
27 groundwater injection, and groundwater desalination and will be implemented in two
28 phases. Phase 1 projects include a tertiary treatment facility, an advanced water
29 treatment facility, a recycled water delivery system, aquifer storage and recovery, a
30 regional desalter, a water blending station, and concentrate disposal. The projects are
31 scheduled for completion by 2007. Phase 2 will include expansion of the recycled water
32 tertiary treatment facility and delivery system, construction of a concentrate collection
33 and disposal system, and expansion of a groundwater desalination facility. There is no
34 schedule for the Phase 2 projects (CH2M Hill 2003; Williamson 2006).

35 The Phase I tertiary treatment facility will recycle up to 5 million gallons per day of
36 wastewater and will be constructed on Perkins Road south of Hueneme Road adjacent
37 to the existing Brackish Water Reclamation Demonstration Facility. Upgrades to the
38 BWRDF will also occur during Phase I (CH2M Hill 2003). These activities will occur
39 approximately one mile from the proposed HDB entry point and the beginning of the
40 onshore pipeline.

Another component of Phase I of GREAT is an aquifer storage and recovery pilot project in which aquifer storage and recovery wells will be installed near the intersection of Hueneme Blvd and Arnold Road. The pilot test will inject recycled water during periods of low agricultural irrigation to assess the technical feasibility of aquifer storage and recovery using potable and reclaimed water (CH2M Hill 2003).

4.20.2.3 Santa Clarita and Santa Clara River

Riverpark Development: Construction of Residential Units

The Riverpark project is a 664-acre (269 ha) parcel located just north of Soledad Canyon Road and the Santa Clarita River and east of Bouquet Canyon Road within the central portion of the City of Santa Clarita. The project, involving the construction of approximately 1,152 residential units, is in the early stages of review. The project will include a number of roadway links, including Newhall Ranch Road, a critical link of the Cross Valley Connector. The proposed residential units will comprise 590 apartments, 478 single-family detached homes, and 84 town homes. The project will also include the preservation of 300 acres (121 ha) of natural river bottom because the Santa Clarita River extends east-west through the southern portion of the site and a 29-acre (11.7 ha) park.

Natural River Management Plan

On November 30, 1998, the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the Los Angeles Regional Water Quality Control Board approved the Natural River Management Plan (NRMP) for the Santa Clara River. The NRMP is a long-term master plan that provides for the construction of various infrastructure improvements on lands adjacent to the Santa Clara River and parts of two of its tributaries. More specifically, the NRMP governs a part of the main stem of the Santa Clara River from Castaic Creek to one-half mile east of the Los Angeles Department of Water and Power Aqueduct and parts of San Francisquito Creek and the Santa Clara River South Fork, Los Angeles County, California. The proposed Project site is located within the part of the river now governed by the NRMP.

Other Projects along the Santa Clara River

Other projects along the Santa Clara River include the Newhall Ranch Specific Plan, the Cross Valley Connector Project, the Castaic Junction Project, the Keystone Project, the Soledad Village Project, and the Bouquet Canyon Bridge Widening Project. Projects in the vicinity of the pipeline routes include the clean-up of the Whittaker Bermite site, the West Creek Project, the Henry May Newhall Memorial Hospital Master Plan Program, the Placerita Canyon Sewer Backbone Project, and the North Valencia II Specific Plan. More information on these projects is provided in Table 4.20-1, above.

4.20.3 Resource-Specific Cumulative Impacts

The following subsections describe the cumulative effects that the proposed Project would have, in combination with the other projects (noted above in Sections 4.20.1, “Other Offshore Projects” and 4.20.2, “Other Onshore Projects”), on public safety, marine traffic, aesthetics, agriculture, air quality, marine and terrestrial biological resources, cultural resources, energy resources, geologic hazards, hazardous materials use, land use, noise, recreation, socioeconomics, transportation, water quality and sediments, and environmental justice.

These environmental issue areas are discussed here in the order they are presented in Chapter 4, “Environmental Analysis.”

4.20.3.1 Meteorology and Oceanography

Because oceanographic and meteorological conditions would affect the Project, rather than be affected by the Project, there would be no significance criteria or impacts.

4.20.3.2 Public Safety

Offshore LNG

Several of the potential cumulative impacts that might affect the safety of the public are addressed elsewhere in this section. For example, if Crystal Energy's Clearwater Port were licensed and constructed concurrently with the proposed Project, marine traffic would increase, which could lead to a temporary increase in marine accidents that could result in public injuries or fatalities. These potential effects on public safety are included in the discussion of potential cumulative impacts for marine traffic. Similarly, the potential for increased numbers of vehicle accidents is addressed in the transportation discussion.

If both Cabrillo Port and Crystal Energy's Clearwater Port were built, no potential cumulative impacts have been identified for foreseeable accidents involving LNG handling offshore, natural gas transport in offshore pipelines, or at shore crossings. The locations of the ports and subsea pipelines are sufficiently far from one another that an accident affecting one of these facilities would not cause a simultaneous accident or release from the other. The potential cumulative increase in LNG carrier marine traffic during the Project's operational life due to the presence of an additional LNG deepwater port could slightly increase marine traffic in the TSS near the FSRU and the potential frequency of vessel collisions. The potential magnitude of that increase has not been quantified, but mitigation measures noted in Section 4.2, “Public Safety: Hazards and Risk Analysis,” and Section 4.3, “Marine Traffic,” would be expected to keep the estimated annual frequency of such an accident occurring to levels similar to those of the projects individually. Measures that would help ensure that such collisions would be rare include equipping FSRU and LNG carriers with Automatic Identification Systems (AIS) transponders, active radar systems, and marine VHF radiotelephone capabilities (AM PS-2a), patrolling the safety zone (AM MT-3a), control room management (AM

MT-3d) broadcasting navigational warnings (AM MT-3e), and live radar and visual watch (MM MT-3f).

The likelihood of an accident occurring at a single deepwater port is low. The increase in the probability of such an accident due to the cumulative impacts of the presence of two deepwater ports would not measurably increase the potential risks to members of the boating public.

The potential for cumulative impacts from simultaneous incidents involving both deepwater ports—Cabrillo Port and Clearwater Port—would be limited to intentional acts. Mitigating actions by port authorities, the U.S. Coast Guard (USCG), local emergency response agencies, and additional forces or actions that might be deployed using military resources would be expected to limit the potential impacts from such an attack. Incident command strategies for handling multiple incidents would be expected to allocate response resources to first address any situation posing an imminent hazard to public safety or the environment. This might result in allocating more resources to handle emergency conditions closer to shore than the Cabrillo Port FSRU. The incident commander would know that the worst credible case impacts from the release and ignition of LNG on board the FSRU would not extend as close to shore as a potential incident at the Clearwater Port. However, the operation of a second deepwater port does not create cumulatively greater impacts on public safety compared to the operation of just a single deepwater port in this area but does represent an incremental risk. Although the probability of an offshore incident associated with the proposed Project is very low, such an incident could result in serious injury or fatality to members of the general public (Class I).

Offshore and Onshore Natural Gas Pipelines

The offshore pipelines from the two deepwater ports would be in separate and distinct pipeline corridors would be in separate and distinct corridors. No cumulative public safety effects would be anticipated from the operation of the offshore pipelines. Onshore, the pipelines from the two different ports would be in separate pipeline corridors, except potentially within approximately two miles of the Center Road Valve Station. The potential for cumulative impacts due to routing additional pipelines from the Clearwater Port project within the same corridor is limited to the potential consequences from: (1) intentional damage to one or more natural gas pipelines located close to one another, and (2) initiation of more than one event at different locations along the pipelines.

Historically, a rupture and fire involving one natural gas pipeline in a utility corridor has not caused significant damage or additional releases from nearby natural gas or hazardous liquid pipelines. Mitigation measures described in Section 4.2, "Public Safety: Hazards and Risk Analysis," would decrease the potential consequences from an attack on multiple pipelines or locations. Such measures would include, for example, providing additional sectionalizing valves equipped with remote valve controls or automatic line break controls (MM PS-4c); this would limit the amount of natural gas that could be released, which, in turn, would automatically limit the duration and extent of a

1 natural gas fire from any ruptured segment and would allow fire services to concentrate
2 on extinguishing any secondary fires involving adjacent structures.

3 The impacts to public safety from the rupture of a natural gas pipeline depend on the
4 specific characteristics of the pipeline, e.g., pipe diameter and pipeline pressure.
5 Should more than one pipeline in a particular area be affected, the effects would
6 potentially overlap, but would not likely combine to produce a greater effect.
7 Emergency planning and preparedness efforts involving the Applicant, SoCalGas, and
8 local response agencies would reduce the potential consequences from such an event.
9 Although the probability of an offshore or onshore pipeline incident associated with the
10 proposed Project is very low, such an incident could result in serious injury or death
11 (Class I).

12 **4.20.3.3 Marine Traffic Impacts**

13 The Project would increase maritime traffic in the area. Flight and marine operations at
14 the Point Mugu Sea Range would increase maritime traffic in the vicinity of the
15 proposed Project. However, operations at Point Mugu are not continuous and Project
16 operations could be adjusted to suit naval operations. Construction of the proposed
17 Project would have to be coordinated daily with the Navy (MM MT-5c) and would be
18 further mitigated by avoiding the Point Mugu Sea Range as much as possible (MM
19 MT-5a), monitoring Navy Securite broadcasts (MM MT-5d) and daily safety briefings
20 (MM MT-5b); therefore, these impacts from Navy operations in conjunction with the
21 construction of the proposed Project would increase traffic temporarily but would be
22 mitigated below the level of significance (Class II). During operations of the proposed
23 Project, Navy operations at the SOCAL Range Complex or Point Mugu Sea Range
24 could increase maritime traffic locally or along the LNG carrier routes or it could cause
25 vessel traffic to temporarily cease along the LNG carrier routes. To mitigate the
26 potential cumulative effects of increased vessel traffic, the Applicant would coordinate
27 with the Navy (MM MT-6c), supply the Navy with the LNG carrier schedule (MM MT-6b),
28 and follow Navy Securite broadcasts (MM MT-6a) (Class II).

29 The Port of Hueneme has expanded its refrigerated warehousing capacity and plans
30 another expansion of these capabilities. The current expansion has led to an increase
31 in the number of refrigerated cargo vessels entering the Port and, therefore, vessel
32 traffic to and from the Port of Hueneme has increased. This expansion, in conjunction
33 with the proposed Project, would also increase vessel traffic to and from the Port.
34 Officials from the Port of Hueneme have stated that the port will be able to
35 accommodate the increased vessel traffic; therefore, the cumulative effect would be
36 less than significant (Class III) (Walsh 2004; Berg 2004).

37 The expansion of Port Hueneme and the planned expansion of the Ports of Long
38 Beach/Los Angeles would mean that vessel traffic could increase in the Santa Barbara
39 Channel TSS. The cumulative effect of these expansions and the proposed Project on
40 vessel traffic in the area would be a net increase in vessel traffic; however, the Project's
41 contribution would not be significant. LNG carriers bound for the FSRU would not enter
42 the Santa Barbara TSS and Project support vessels would only travel in the Santa

Barbara TSS for a short distance while transiting to and from Port Hueneme several times a week.

All current activities associated with oil and gas leases are included in the marine traffic discussed in Section 4.3, "Marine Traffic." Since most activities associated with oil and gas leases are currently suspended due to pending litigation, it would be speculative to assess their potential cumulative impact on maritime traffic during operations.

If Crystal Energy's proposed Clearwater Port were licensed, vessel traffic in the area would increase substantially, but temporarily, during the construction phase and would increase on a regular basis during operations involving the transit of LNG carriers and supply vessels, with impacts comparable to the proposed Project. If the proposed Project and Clearwater Port were to be constructed simultaneously, then there would be short-term increases in marine traffic in the region. However, given that the two deepwater ports would be 21.7 NM (25 miles or 40.2 km) apart and the proposed offshore pipelines would cross the shore at distance of about 7 miles (11.3 km) from each other, increased vessel traffic would be in discrete areas. Port of Hueneme would experience increased vessel traffic since both deepwater ports would use it.

In contrast to the proposed Project, construction of Crystal Energy's Clearwater Port would not involve installation of a pipeline across the vessel traffic separation scheme. Since vessel traffic would increase if the two projects were constructed simultaneously, potential cumulative impacts would be significant (Class II); however, implementation of the construction-related mitigation measures (MT-1a through -1g) would reduce the potential cumulative impacts to a level below the impact's significance criteria.

If both projects were to operate simultaneously, LNG carrier traffic in the area would increase. The increase in LNG carrier traffic could adversely affect marine traffic because it is anticipated that a safety zone would be needed around each carrier during transit through the area. The LNG carrier routes for the Crystal Energy project are unknown at this time. Since Crystal Energy's Clearwater Port could be receiving LNG from Alaska, Southeast Asia, or the Middle East, it is not possible to speculate as to the exact route that the LNG carriers would take to approach the Port. Since only four LNG carriers would call at the Port per month, or 48 per year, it is unlikely that this would significantly increase overall vessel traffic in the area. Given the location of Clearwater Port, any LNG carrier approaching it would either have to travel in the Santa Barbara TSS or cross it. Given that there likely would be an exclusion zone surrounding any LNG carrier, this could cause a temporary disruption in vessel traffic in the TSS. LNG carriers destined for Cabrillo Port would not enter the TSS.

If an LNG terminal is built at the Port of Long Beach, LNG carriers could use similar vessel approach routes to enter the vessel traffic separation scheme. Assuming that the LNG carriers to the Port of Long Beach would either have a trans-Pacific or south to north route, Project LNG carriers may have overlapping routes in the southern Channel Islands. LNG carriers destined to Clearwater Port also could use this route. Due to the fixed safety zones that would be assumed to surround each LNG carrier, vessel traffic could be disrupted regularly with the approach of multiple LNG carriers to the vessel

1 traffic separation scheme. Cumulative impacts would be significant but mitigable (Class
2 II) with coordination of LNG carrier approaches with the Captain of the Port of Los
3 Angeles/Long Beach.

4 Regardless of the route selected for LNG carriers to approach the LNG terminal at the
5 Port of Long Beach, Cabrillo Port, or Clearwater Port, LNG carrier vessel traffic through
6 the Point Mugu Sea Range or SOCAL Range Complex is likely to increase. In addition,
7 the expansions of the Port of Long Beach would result in increased vessel traffic

8 **4.20.3.4 Aesthetic Impacts**

9 **Offshore**

10 The presence of vessels and platforms in the Pacific Ocean off the coast of California is
11 not new; the presence of LNG carriers, however, would be new but would be similar to
12 other large ships that currently traverse the area (see Section 4.4, "Aesthetics"). Large
13 numbers of ocean vessels, naval ships, and recreational ships traveling to and from the
14 ports of Long Beach, Los Angeles, San Diego, Hueneme, and San Francisco travel
15 along the coast during the day and night. From the nearest point on the coast, Platform
16 Grace is about 9.2 NM (10.6 miles or 17.0 km) offshore and 28.9 NM (33.3 miles or 53.5
17 km) from the proposed FSRU and would not contribute to cumulative aesthetic impacts.
18 However, if Crystal Energy's Clearwater Port were approved, Platform Grace would
19 continue to be used, and its presence would continue to have a long-term aesthetic
20 impact in the region as a whole.

21 No additional platforms are planned in the proposed Project area and development of
22 the 36 non-producing leases is uncertain due to pending litigation. The proposed FSRU
23 would be located farther from shore than the existing platforms and would be an
24 indiscernible object on the horizon. The FSRU resembles a large vessel, and more
25 than 10,000 large vessel transits occur in the area annually. When viewed from the
26 shore, the cumulative aesthetic effect of the proposed Project given the existing
27 platforms and vessel traffic would be an insignificant long-term cumulative visual impact
28 (Class III).

29 No known offshore projects would be constructed simultaneously with the installation of
30 the FSRU and the offshore pipelines. AM BioMar-3a would reduce the potential effects
31 of lighting associated with construction and installation of the FSRU to a level that is
32 less than the significance criteria. Therefore, the cumulative effect of temporary lighting
33 associated with offshore construction would be a Class II impact. Once installed, the
34 FSRU would be lit at night, as would large vessels transiting the Santa Barbara TSS.
35 Onshore residents are accustomed to the presence of vessels at night in the TSS. The
36 cumulative impact of the presence of the FSRU and vessels transiting the TSS would
37 be mitigated by AM BioMar-3a and the transitory nature of the transiting vessels (Class
38 II).

39 The long-term presence of the FSRU is identified as a Class I impact for aesthetics
40 associated with the visual expectations of some recreational boaters such as whale

watchers who travel near it (see Section 4.4, "Aesthetics"). No mitigation measures would reduce this impact to a level that is less than the significance criteria. The presence of the FSRU in conjunction with permanent changes to Platform Grace from Crystal Energy project (located 21.7 NM (25 miles or 40.2 km) from the proposed Cabrillo Port project) is considered a significant regional cumulative aesthetic impact and no mitigation exists (Class I).

Onshore

During construction of the pipeline, views along scenic highways in Oxnard and Santa Clarita could be adversely affected by views of construction machinery and activities. No known construction projects would occur simultaneously with the Project. Upon completion of the Project, the original views would be restored. Therefore, the Project would not contribute to a significant cumulative aesthetic impact onshore (Class III).

4.20.3.5 Agriculture and Soil Impacts

According to the California Department of Conservation, the results of farmland mapping in Ventura County from 2000 to 2002 resulted in the reclassification of 2,011 acres (814 ha) of agricultural land, mostly for urban uses. Urban acreage increased by 2,557 acres (1,035 ha). Data from 1990 to 2002 indicate a net increase of more than 11,800 urban acres (4,775 ha) and a decline of almost 8,700 farmland acres (3,521 ha). City reports show that an additional 7,500 acres (3,035 ha) is committed to future non-agricultural use (California Department of Conservation 2004).

Crystal Energy's Clearwater Port would have effects similar to those of the proposed Project. The onshore pipeline would be installed in some agricultural lands, but these areas would only be disturbed temporarily. It is uncertain whether there would be any permanent conversion of agricultural lands for permanent facilities; however, any conversion of agricultural land for the Crystal Energy project is likely to be similar to the proposed Project. The proposed Project in Ventura County would permanently convert less than 1 acre of Prime Farmland soils from agricultural to non-agricultural uses. Conversion of soils classified as either Prime Farmland or Soils of Statewide Importance is considered a significant impact; therefore, the combined impacts of the Project with the potential of conversion of these types of soils with the Crystal Energy project would have a significant cumulative impact on agricultural soils (Class I).

Conversion of agricultural land to urban uses has a long history in the Santa Clarita Valley. The amount of irrigated crop acreage farmed by Newhall Land and Farming Company, the main agricultural landowner in the Valley, decreased, because of conversion, from 3,224 acres (1,305 ha) in 1965 to 1,008 acres (408 ha) in 1995, which represents a 69 percent reduction over that time period (Impact Sciences 2004). This Project would not contribute to any further conversion of agricultural land to non-agricultural land in Santa Clarita and would not have a significant cumulative impact (Class III).

4.20.3.6 Air Quality Impacts

Crystal Energy LLC Clearwater Port LNG Importation Facility

If Crystal Energy's proposed Clearwater Port were approved, the facility would emit air pollutants during construction and normal operation. Since the quantity and locations of these emissions have not been quantified, it is not possible to fully characterize associated air quality impacts. Potentially significant cumulative regional air quality impacts due to the Clearwater Port facility and the Project can be expected; however, these cumulative impacts are difficult to determine because an air analysis comparable to that done for the proposed Project has not been performed for the Clearwater Port Project.

Offshore Oil and Gas Leasing

No additional platforms are planned in the proposed Project area, and development of 36 non-producing leases is uncertain due to pending litigation. In addition, a moratorium on new offshore leasing is currently in place. Therefore, cumulative adverse effects on air quality would not be likely to result from existing oil and gas leasing in conjunction with the Project.

Point Mugu Sea Range Operations

Aerial and marine operations at the Point Mugu Sea Range are ongoing and could contribute to temporary increases in cumulative air pollutant emissions. Emissions from ongoing operations at the Point Mugu Sea Range are assumed to be reflected in the historical ambient air quality monitoring performed at onshore locations in Ventura and Los Angeles Counties; these data were taken into account in the air pollutant measurements and air quality analyses performed for the proposed Project. Therefore, it can be assumed that the cumulative impacts associated with Point Mugu Sea Range and the Project would not exceed air quality significance criteria.

Port of Hueneme Warehouse Additions

The Port of Hueneme expanded its refrigerated warehousing capacity in 2004 to accommodate more refrigerated cargo vessels to enter the Port. The air quality analysis prepared for the proposed Project accounts for background emissions, including emissions from this expansion. The air quality analysis indicates that Project operations would not contribute substantially to air quality impacts at onshore locations and would not exceed air quality significance criteria.

Onshore Residential and Commercial Development

Residential and commercial development is planned for Oxnard and Santa Clarita. If these developments were to occur concurrently with the proposed Project, local air quality could be temporarily diminished. However, the air quality analyses conducted for the Project indicate that significant air quality impacts would occur only in very close proximity to construction activities. Therefore, the cumulative impacts of the Project

with concurrent residential and commercial development are unlikely to exceed air quality significance criteria.

Greenhouse Gas Emissions

The Project would generate emissions of greenhouse gases that contribute to global warming. The majority of Project emissions of greenhouse gases would be carbon dioxide (CO₂). Project operations would cause annual CO₂ emissions of 0.29 million tons per year (MMtons/yr). Project start-up and construction activities would result in one-time CO₂ emissions of 0.010 MMtons and 0.017 MMtons, respectively. These emissions represent less than 0.06 percent of the 543 MMtons of CO₂-equivalent greenhouse gas emissions produced in California in 2002 (CEC 2005).¹ The greenhouse gas emissions from the Project would be insignificant alone, but could exacerbate, in combination of existing greenhouse gases, global warming effects.

4.20.3.7 Biological Resources – Marine

Marine Mammals

Potential cumulative impacts from the proposed Project in conjunction with other offshore projects include the effects of additional vessel or aircraft noise on marine mammals. Ships traveling throughout the area may produce sufficient underwater noise to cause changes in certain whale behavior. According to Carretta et al. (2002), increasing levels of man-made noise in the world's oceans has been suggested to be a habitat concern for whales and particularly for baleen whales, which may communicate using low-frequency sound. Such sounds may not only affect communications but also may cause whales to divert from normal migration paths or to stop feeding or reproductive activities. The sounds may also reduce the abilities of marine mammals and sea turtles to detect prey or predators and, in the case of odontocetes, the ability to navigate.

Cabrillo Port would be 3.54 NM (4.1 miles or 6.6 km) from the southern boundary of the Point Mugu Sea Range and therefore activities that occur at the Port could, within the Point Mugu Sea Range, contribute to cumulative effects. Operational vessels at the Point Mugu Sea Range or commercial vessels transiting the area may temporarily disrupt whale migrations or feeding. Other activities at the Point Mugu Sea Range are described above and were considered in the U.S. Navy's EIS for the Point Mugu Sea Range (U.S. Navy 2002). Studies associated with these projects indicate that these activities would not have noise impacts on marine mammals. The proposed Project would increase noise temporarily in the immediate Project site during construction activities. The incremental contribution of the proposed Project would not increase the

¹ The term "CO₂-equivalent" describes the ensemble of gases that contribute to global warming, including but not limited to CO₂, methane, and nitrous oxide. To determine CO₂ equivalence, CO₂ is given a weighting factor of 1.0 and other gases are given a weighting factor greater than 1.0 because they have a stronger impact on global warming than CO₂.

1 cumulative effects of noise on marine mammals. Implementation of AM BioMar-9a and
2 -9b, which would ensure that offshore construction activities would occur outside the
3 gray whale migration season and that all construction and operational vessels would
4 carry two qualified marine mammal monitors, would further ensure that the Project's
5 contribution to the cumulative effects would be reduced below the significance criteria
6 for marine mammal impacts (Class II).

7 If Crystal Energy's Clearwater Port were licensed and constructed, vessel traffic and
8 noise associated with vessel traffic and operations on the facility would increase;
9 however, the potential contribution of the proposed Project would be reduced to below
10 its significance criteria through, the use of marine mammal monitors (Class II). Since
11 Crystal Energy's Clearwater Port would be constructed at Platform Grace, the area
12 already has vessel traffic servicing the platform and noise from operations on the
13 platform. The exact change in vessel traffic and noise is not known at this time.
14 However, the greatest effects of increased noise would be during marine mammal
15 migration. Construction activities would represent a significant increase in noise over a
16 short period of time. To avoid the potential adverse effects on marine mammals, the
17 proposed Project would not be constructed during the gray whale migration season.
18 Any increase in vessel traffic increases the potential risk of vessel/marine mammal
19 collision. Through implementation of marine mammal monitoring during construction
20 and operations, the risk of potential collisions would be reduced to a level less than its
21 significance criteria. It is also presumed that Crystal Energy's Clearwater Port would be
22 required to implement similar measures.

23 **Benthic Habitats and Communities**

24 The proposed Project would have temporary impacts on the soft bottom benthic habitats
25 within the immediate Project area. Disturbance of soft sediments is a localized and
26 temporary impact and would not prevent benthic communities from reestablishing within
27 one year of construction impacts. These temporary impacts would not contribute to
28 cumulative impacts on the existing benthic communities in the area from other projects
29 such as Crystal Energy's Clearwater Port or offshore oil and gas exploration,
30 production, and/or decommissioning. No significant cumulative effects would occur
31 (Class III).

32 **Sea Turtles**

33 Impacts on sea turtles include potential collisions with marine vessels and potential
34 entanglement with anchor lines or other necessary lines associated with construction
35 and operations of the Project. Marine operations at the Point Mugu Sea Range are
36 ongoing; the Port of Hueneme has expanded its facilities in a way that would increase
37 marine traffic to the area; and if Crystal Energy's proposed deepwater port were
38 licensed, vessel traffic in the area would increase temporarily during the construction
39 phase and would involve the transit of LNG carriers and supply vessels during
40 operations. The increase in traffic in the area associated with these projects, in
41 conjunction with the proposed Project, may increase the potential for vessel-turtle
42 collisions. Considering the absence of sea turtle sighting reports at or near the Project

site, the fact that most sightings in the Southern California Bight are at the limits of their range (except for the leatherback sea turtle), and that sea turtle feeding habitats are not present at the Project site, the proposed Project would not contribute to cumulative impacts on sea turtles (Class III).

Fish and Essential Fish Habitat (EFH)

Significant impacts on fish and EFH are not anticipated from the proposed Project or from the other offshore projects described in this section. Fish are highly mobile and some would be expected to leave a construction area temporarily during construction and return to the area immediately after construction ceases. An ichthyoplankton impact analysis was developed to determine potential impacts of the proposed Project (see Appendix H1 of this document).

The results of the analysis indicate that the daily mortality for eggs would represent approximately less than 0.00000050 percent of the eggs found within the identified water body source (see EHF assessment in 4.7.1.2, "Marine Fishes," for source water body details). The daily mortality for larvae would represent less than 0.00000050 percent of the larvae found within the Project area. Impacts on ichthyoplankton can be difficult to interpret due to the low natural survival rates of fish eggs and larvae. In fact, many (84.9 percent) of the entrained organisms are eggs, which are subject to high rates of natural mortality. The daily density values represent impacts on fishery populations that can be considered adverse but less than their significance criteria when considered relative to the area potentially impacted by Project-related seawater uptake. Considering the species, densities, and percentages affected by the proposed Project, entrainment impacts to any special status species (listed, candidate, sensitive, or EFH species) would be adverse but less than the significance criteria.

The known density and species occurrence near the Project site, an evaluation of the amount of seawater that would be taken in the FSRU and LNG carriers during operations, the depth and location of the ballast water pumps, and the flow rates at the uptake valves indicate that the impact on ichthyoplankton or EFH from impingement or entrainment would be less than the significance criteria. No significant cumulative impact to ichthyoplankton is expected from the proposed Project when considered together with the known effects of other projects in the area (Class III).

Impacts to ichthyoplankton could have an adverse cumulative effect when considering the effects of the release of biomass or bio-fouling (from entrained organisms discharged into the ocean waters) with the thermal discharges proposed from the cooling systems. This is not a well studied effect; however, the low volumes of biomass indicated for discharge (as identified in the very low densities of ichthyoplankton being taken up by the seawater systems) together with the quick dispersal of the thermal plume and biomass horizontally and within the vertical water column may result in an adverse but not significant impact.

Grunion "runs" or spawning could potentially occur during any construction on beaches. Construction activities for the proposed Project would be restricted by the CDFG to

times outside of known grunion spawning seasons, and similar restrictions would be expected for other projects that would cross a beach in the Project area. Cumulative impacts on fish would not be expected, nor would they exceed the significance criteria (Class III).

Marine Birds

A number of seabird species are known to be attracted to bright lights at night. Such animals sometimes collide with lighted objects, causing them to become stunned, injured, or killed. When they are stunned or injured, they generally fall back into the water, where they fall prey to other seabirds such as gulls and other predators. Xantus's murrelet (*Synthliboramphus hypoleucus*), a threatened species under the California ESA and a Federal candidate, may be subject to offshore lighting impacts. However, studies indicate very low mean densities of Xantus's murrelet (between 0.04 and 0.1 birds/km²) offshore in the California Oceanic Cooperative Fisheries Investigations sampling around the Channel Islands. Night-foraging storm petrels and alcids may also be subject to offshore lighting impacts, including the ashy storm petrel (*Oceanodroma melania*) and the rhinoceros auklet (*Cerorhinca monocerata*), which are California species of special concern. Studies show that rhinoceros auklets are found offshore between 0.02 and 0.14 bird/km².

Seabirds are highly mobile and would be expected to temporarily leave any area where construction activities are occurring. Generally, they are expected to return to the area immediately after construction activities have ceased. Because of its remote location, the lighting from the FSRU may be seen from shore or from the Channel Islands only on clear nights. The required beacon light would be less visible than the lighting on offshore platforms, including Platform Grace (Crystal Energy, Clearwater Port), in the Santa Barbara Channel. In addition, commercial vessels transiting the Project area at night are also lit. No cumulative impact to marine birds is expected from the proposed Project when considered together with the known effects of other projects in the area (Class II).

4.20.3.8 Biological Resources – Terrestrial

Coastal Zone and Oxnard Plain

Horizontal directional drilling (HDD) or HDB would likely be used for the shore crossing to minimize potential adverse effects to Mandalay Beach. In addition, all drilling equipment would be staged on the Mandalay Beach Generating Station to avoid disturbance to the surrounding dunes. The onshore pipeline of Crystal Energy's Clearwater Port project would cross the Coastal Zone and Oxnard Plain. From Mandalay Beach, the pipeline to the Center Road Valve Station is anticipated to follow existing rights-of-way (ROWs).

Potential impacts during pipeline installation or HDD/HDB activities could be an increase in sedimentation and erosion, disturbance of special status bird nesting or other sensitive habitat, direct impact to a special status species potentially occurring

1 within the Crystal Energy Clearwater Port project footprint, and temporary or permanent
2 changes to wetlands. For the Cabrillo Port Project, the Applicant would implement a
3 Drilling Fluid Release Monitoring Plan to reduce impacts on biological resources.
4 Impacts on plant resources would be less than significant (Class III) and impacts on
5 wildlife would be temporary and mitigated to levels below the impact's significant criteria
6 (Class II) through surveys and monitoring measures. Since the shore crossing for the
7 Clearwater Port project is about 7 miles (11.3 km) from the Project's Ormond Beach
8 shore crossing and the effects of the HDD/HDB activities would be temporary, and
9 because both projects would need to adhere to permitting requirements, there would be
10 no anticipated cumulative effects on biological resources on the respective beaches or
11 species that frequent both beaches. It is assumed that Crystal Energy's impacts and
12 mitigation measures would be similar to those for the Cabrillo Port Project.

13 In general, pipeline installation on the Oxnard Plain for both projects would be through
14 developed or agricultural areas. However, the exact route of Crystal Energy's
15 Clearwater Port pipeline is uncertain. The pipelines would converge near or at the
16 Central Valve Station. The onshore pipeline associated with Clearwater Port could
17 transit tree rows, wetlands, or near special status species. Both pipelines would require
18 permits to cross any stream or wetlands; such permits would stipulate necessary
19 mitigation. Any cumulative effects on terrestrial biological resources in the Oxnard Plain
20 would be reduced below the level of the significance criteria through implementation of
21 mitigation measures such as tree avoidance and replacement (MM TerrBio-2g); riparian
22 avoidance and restoration (MM TerrBio-2f); avoidance and reduction of impacts on
23 wetlands (MM TerrBio-3a); and pre-construction surveys of special status plants (AM
24 TerrBio-2a).

25 Most of the proposed residential, commercial, and industrial projects in Oxnard are in
26 previously developed areas or agricultural land and are therefore not anticipated to
27 adversely affect terrestrial biological resources as long as best management practices
28 (BMPs) are employed. No potential cumulative effects on terrestrial biological
29 resources would result from these known developments in conjunction with the
30 proposed Project. The one exception is the Ormond Beach Specific Plan, which
31 involves the development of a 920-acre community that extends from Edison Road on
32 the west to Olds and Arnold Road on the east, West Pleasant Valley Drive on the north
33 and the Pacific Ocean to the south. A plan and an EIR are being developed for this
34 project; therefore, it is not possible to speculate about its potential impacts at this time.

35 At Ormond Beach, the California State Coastal Conservancy has acquired land and
36 plans to acquire additional property for a wetland restoration project. The feasibility
37 study for this project is under way. The Coastal Conservancy Wetland Restoration
38 Project, if implemented, would have a net positive effect on the biological resources at
39 Ormond Beach in that wetlands and habitat would be restored, so that area would be
40 more attractive to wildlife resources. To ensure that the proposed Project does not
41 adversely affect the Coastal Conservancy Project, HDB would be used to install
42 pipelines underneath Ormond Beach without disturbing the beach surface. In addition,
43 all construction activities would occur on the Reliant Energy Ormond Beach Generating
44 Station property. As a result, the cumulative effects of both projects would be a net

benefit to wetlands on Ormond Beach, if all Project mitigation measures were implemented.

Santa Clara Valley

Potentially significant cumulative impacts associated with residential and commercial development in the City of Santa Clarita would include a loss of riparian habitat; disturbance to species using the area; and effects on habitat for the unarmored three-spine stickleback, least Bell's vireo, arroyo toad, and western spadefoot toad. Known future development projects along the Santa Clara River and San Francisquito Creek would include mitigation measures to avoid or reduce impacts, but the residential and commercial projects would still result in a net loss of biological resources and habitat that could support sensitive species. The construction and installation of the proposed Project pipeline could add to the loss of habitat along the Santa Clara River and San Francisquito Creek.

Mitigation measures have been developed to reduce or minimize the loss of riparian habitat, including tree avoidance and replacement (MM TerrBio-2g), and riparian avoidance and restoration (MM TerrBio-2f). Other measures would ensure that construction avoids, minimizes, or reduces wetland impacts (MM TerrBio-3a) and avoids impacts to special status plants through pre-construction surveys (AM TerrBio-2a), a biological resources mitigation and monitoring plan (AM TerrBio-2b), an employee environmental education (AM TerrBio-2c), biological monitoring (AM TerrBio-2d), and confining activities to identified rights-of-way (AM TerrBio-2e). Lastly, construction activities could impact sensitive animal species. The previously cited employee environmental awareness and biological monitoring programs, along with pre-construction surveys (MM TerrBio-5a), would protect wildlife during construction. Construction activities would contribute a relatively small and temporary cumulative impact on biological resources.

4.20.3.9 Cultural Resources Impacts

The Project would avoid impacts on cultural resources and therefore would not contribute to cumulative cultural resources impacts.

4.20.3.10 Energy and Mineral Resources Impacts

Because the Project would not likely affect mineral resources, and because the Project's consumption of local electricity and energy supplies would not have an adverse effect, it is not expected that the Project would contribute to any cumulative impact on either of these resources. The Project would have a positive effect on the energy supply of the State of California.

4.20.3.11 Geologic Resources Impacts

The Project is expected to temporarily increase sedimentation and erosion. After being disturbed, sediments would be deposited at or near their original location. Since these effects would be highly localized and limited primarily to the construction period,

cumulative impacts on geologic resources would only occur if other projects were constructed at the same time and in the same location as the proposed Project facilities. If other terrestrial development/construction projects occur at the same time or near the same area, increased sedimentation could result. This cumulative impact would be minimized, however, by ensuring that the pipeline location and burial method avoids areas of sediment transport (AM GEO-6a). Consequently, potential cumulative impacts on geologic resources would be reduced to below the significance criteria (Class II).

No known project would occur at the proposed Project locations for HDB and HDD. Therefore, no cumulative effects would be associated the potential of worsening existing unfavorable geologic conditions and the potential effects due to the Project would be mitigated through the implementation of AM GEO-1a (drilling location), MM GEO-1b (backfilling, compaction, and grading), MM WAT-3a (drilling fluid release plan) and MM WAT-4b (erosion control plan)(Class II).

It is not possible to speculate as to the cumulative effects of major geologic events because such events would be locational and event-specific. An earthquake, mass movement of soil, tsunami, or other geologic events could damage the FSRU, the offshore pipelines, or the onshore pipelines. The Applicant has sought to avoid active earthquake faults and other areas where geological events could occur and has incorporated engineering design features to limit the potential damage to the facilities (AM GEO- 4a, -3b, and -6a). Mitigation measures MM GEO-3c, -3d, and -4a would further reduce the potential for adverse effects.

Construction of the proposed Project could add to loss of fossil resources as a result of surface-disturbing activities associated with existing and reasonably foreseeable projects. However, if significant paleontological resources were identified at any time, construction would be diverted to avoid affecting these resources (Class II). Implementation of MM GEO-2a, inspection prior to excavation in areas with potential for paleontological resources, would minimize the potential impact to a level less than the significance criteria and therefore would not contribute to cumulative geological resources impacts.

4.20.3.12 Hazardous Materials Impacts

During construction, the proposed Project could add to cumulative impacts in the region through releases of small quantities of fuels or hazardous materials, or through unearthing contaminated sites in the offshore area. The offshore Project area is used by military, commercial, fishing, and recreational vessels, all of which can potentially release hazardous materials or small quantities of petroleum products. The expansion at the Port of Hueneme and the proposed expansions at the Port of Los Angeles/Long Beach could increase maritime traffic in the area and thereby increase the potential for additional pollution. It is not possible to quantify the amount of increased pollution that would occur, but the contribution of the Project to the cumulative effect of hazardous materials impacts in the Project area would be small, given that laws and regulations concerning hazardous materials would be adhered to and that measures AM HAZ-1a,

1 -2a, MM HAZ-2b, -2c, and MM WAT-3a would minimize the potential of a release during
2 construction and operations.

3 The net increase in vessel traffic would result in a greater potential for a spill, thus
4 increasing potential cumulative hazardous materials impacts of the Project and other
5 projects. The contribution from the Project, with the exception of potential spills of
6 diesel fuel, would be mitigated to less than the significance criteria and all other
7 releases would be regulated under international, Federal, and State laws and
8 regulations.

9 Construction activities from any of the proposed onshore projects could unearth
10 contaminated soils; however, it would be speculative to assume that both the proposed
11 Project and another project would simultaneously uncover contaminated soils. The
12 Whittaker-Bermite facility is a contaminated facility immediately adjacent to Line 225
13 Loop; however, according to the California Department of Toxic Substances, no
14 contamination is present along that border of the facility. Implementation of AM HAZ-3a
15 and MM HAZ-3b and -3c would reduce the contribution of the Project to cumulative
16 effects to less than the significance criteria for hazardous materials.

17 No known offshore projects would be constructed concurrently with the proposed
18 Project; therefore, only the proposed Project would contribute to potential disturbance of
19 any offshore contaminated sediment or exposure of unexploded ordnance on Point
20 Mugu Sea Range. However, no known contaminated sediments occur within 1 NM of
21 the offshore pipeline route, and the Project would implement MM HAZ-4a and -4b to
22 reduce the potential contribution of the Project to cumulative effects to negligible.

23 **4.20.3.13 Land Use Impacts**

24 **Offshore**

25 A CINMS EIS concerning the expansion of the boundaries of the sanctuary is currently
26 being developed. Depending on the boundary concept selected, Cabrillo Port may or
27 may not be within the sanctuary boundaries. According to the CINMS, installation of the
28 FSRU and offshore pipelines would not automatically preclude the sanctuary from
29 including the Project area in its new boundaries (Mobley 2004); if the FSRU location
30 were within the boundaries under consideration, this would need to be considered by
31 CINMS when making a final decision about the sanctuary boundaries. However, this
32 EIS is not expected to be finalized before 2007. Therefore, the potential cumulative
33 impacts would be speculative at this time.

34 The subsea pipelines cross the Point Mugu Sea Range. The U.S. Navy has indicated
35 that the presence of the subsea pipelines would not represent a conflicting land use
36 (Parisi 2004). Therefore, there are no cumulative impacts with respect to land uses at
37 the Point Mugu Sea Range.

Onshore

The onshore pipeline would be installed primarily through existing easements or in existing ROWs, and therefore little conversion of existing land uses would be required. The one exception is the expansion of the Center Road Valve Station, where about one acre (0.4 ha) of an existing orchard would be acquired and used in the expansion (Class II). The Crystal Energy project would result in the conversion of a similar amount of land because it would require the same facilities. While other projects in the proposed Project area may contribute to the loss or conversion of agricultural lands, with mitigation (MM AGR-1b), the incremental, cumulative contribution of the proposed Project to changes in land use would reduce this impact to below its significance criteria. Therefore, the resulting cumulative impact on land use is considered negligible.

Construction-related impacts such as noise, dust, and parking and access are addressed under those respective sections.

4.20.3.14 Noise Impacts

Offshore

The Project would add to cumulative noise impacts in the area. Aerial and marine operations at the Point Mugu Sea Range are ongoing and could intermittently increase noise in the vicinity of the proposed Project. Construction noise from the Project would be temporary, but operational noise from the Project would be continuous. Cumulative noise effects could occur when offshore pipeline construction is occurring in and near the vicinity of the Sea Range; however, implementation of MM NOI-1a (efficient equipment usage), AM MT-1a (safety vessel warnings), and MM MT-1c (notices to mariners) would mitigate the noise levels and exposure to boaters to below the impact's level of significance (Class II) for boaters. Operational noise from the FSRU would exceed significance levels into the ATBA (Class I), however not beyond this area, and would diminish further with greater distance. Since the Point Mugu Sea Range is 3.54 NM (4.1 miles or 6.6 km) from the FSRU, cumulative effects of operational noise and marine operations on the Sea Range are unlikely. Aerial operations on the Sea Range could have cumulative noise effects for boaters transiting the ATBA (Class I), but the cumulative effect would be less than significant given the transitory nature of aerial operations.

No additional oil and gas platforms are planned in the proposed Project area, development of the non-producing oil and gas leases is uncertain due to ongoing litigation and there is a moratorium on new offshore leasing. Current and new activities on these leases would increase noise, but the noise generated would be sufficiently distant from these activities such that no cumulative noise effects are anticipated. If Crystal Energy's proposed deepwater port is licensed, noise would increase in areas with common vessel traffic, including parts of the vessel traffic lanes and vessels exiting and entering Port Hueneme. The noise increase would be substantial but temporary if both projects were constructed concurrently, but the contribution of the Project would be mitigated through the use of MM NOI-1a, AM MT-1a, and MM MT-1c. If both projects

were to operate simultaneously, noise would increase at each respective location; however, the projects are 28.9 NM (33.3 miles or 53.5 km) apart; therefore, operational noises from both projects would not have cumulative effects. LNG carrier traffic would increase, but no carriers could be less than the distance of the exclusion zone from each other; therefore, there is unlikely to be a cumulative effect on noise.

Port Hueneme expanded its refrigerated warehousing capacity and plans another expansion of these capabilities. This expansion has enabled Port Hueneme to increase the number of refrigerated cargo vessels entering the Port. Therefore, there would be a net increase in vessels in the area and an increase in vessel noise. The cumulative effect of this expansion and the proposed Project would be a net increase in vessel traffic and noise. The increase in noise would be temporary but significant (Class I).

Expansion of the Port of Los Angeles/Long Beach would likely result in an increase in vessel traffic in the Santa Barbara Channel. With the increase in vessel traffic, there would be a concurrent increase in vessel noise. The cumulative noise effects of this increase in vessel traffic and the presence of the Project would be in the ATBA, the location where boaters could transit between the FSRU and the Santa Barbara Channel TSS. There would be locations in the ATBA where noise levels exceed significance levels from FSRU operations. If a boater was transiting the ATBA when a vessel was transiting the Santa Barbara Channel TSS in the vicinity of the FSRU, the boater would experience significant cumulative noise effects (Class I). These effects would be transitory because both the vessel and the boater would be in transit. Project support vessels would transit a portion of the Santa Barbara Channel TSS traveling to and from Port Hueneme. These vessels would cause temporary but significant noise impacts (Class I). There could be cumulative noise impacts from the increased vessel traffic in the Santa Barbara Channel TSS if vessels travel in close proximity to each other; however, this is unlikely because vessels must maintain a safe distance from one another.

Onshore

The proposed Project would contribute incrementally to cumulative impacts from noise in the area if road, residential housing, or commercial development construction projects were to occur concurrently in the vicinity of the pipeline construction for the Project; however, such cumulative impacts would be temporary and could be mitigated through implementation of AM NOI-4a and MM NOI-4b, -4c, -4d, -4e, -4f, -5a, -6a and -6b.

4.20.3.15 Recreation Impacts

Offshore

Impacts to offshore recreation can result from restricted access or changes to the aesthetic quality of the area.

The permanent safety zone around the FSRU would restrict access for boaters. If constructed, the Crystal Energy Clearwater Port project would also likely have a similar safety zone around the platform; there is already a safety zone around Platform Grace

that boaters are likely to be accustomed to. Most recreational boaters travel much closer to shore than the location of either of these two potential projects and would not be impacted by the safety zone at all. Although these projects would permanently reduce the availability of area for boaters to travel, the potential impact is negligible and is not considered significant because the area removed from boating availability would be very small in comparison to the area remaining for boating. No mitigation would be required (Class III).

The presence of large permanent structures or LNG carriers may reduce the quality of the recreational experience for some individuals. In addition to the FSRU that would be constructed for the Cabrillo Port project, existing and future projects with permanent or large offshore facilities include the Crystal Energy Clearwater Port, existing and possible future offshore oil platforms, and naval activities at the Point Mugu Sea Range.

If the proposed Project and Crystal Energy's Clearwater Port both were developed, the increase in LNG carriers in the area would have ongoing but intermittent recreational impacts (Class III). It is common to see large vessels in the Project area, and therefore the addition of the LNG tankers would not be considered significant. However, the presence of the FSRU in conjunction with permanent changes to Platform Grace from Crystal Energy project is considered a significant cumulative impact and no mitigation exists (Class I).

No additional platforms are planned in the proposed Project area and development of the 36 non-producing leases is uncertain due to ongoing litigation. In addition, there is a moratorium on new offshore leasing. Current and new oil and gas activities would increase recreation impacts. Several existing platforms in the area are likely to be removed or decommissioned during the 40-year operational time frame for the FSRU. The Crystal Energy project proposes to use an existing platform that would not add to cumulative visual impacts. Therefore, the Crystal Energy project, in combination with the proposed Cabrillo Port Project, would not result in cumulative impacts to offshore recreation as a result of aesthetic changes.

If the proposed Project and Crystal Energy's Clearwater Port both were developed, the increase in LNG carriers in the area would have ongoing but intermittent recreational impacts (Class III). It is common to see large vessels in the Project area, and therefore the addition of the LNG tankers would not be considered significant.

Onshore

Most of the proposed route would be within existing roadways and would bisect agricultural areas. Although several projects are planned in the vicinity of the proposed Project pipeline routes that could increase demand for recreational opportunities, the Project would not contribute to cumulative impacts on recreation. The Project's onshore recreational impacts would be temporary, short-term, and related solely to construction traffic congestion, with the exception that construction activities for the Line 225 Pipeline Loop, which would temporarily close the multi-use trails along the South Fork Santa Clara River. With the implementation of mitigation measures to reduce temporary

construction nuisances, the Project would not contribute incrementally to a significant cumulative impact on recreation (Class III).

4.20.3.16 Socioeconomic Impacts

Offshore

Crystal Energy is proposing to use the existing Platform Grace for its Clearwater Port LNG facility. The impacts on housing and public services from the additional workers required would be as minimal, as would be those from the proposed Project (Class III). Since Crystal Energy's Clearwater Port would be developed at an existing platform, it would not affect commercial fishing because the little if any new waters would be excluded from commercial fishing. Platform Grace already has a safety zone surrounding it (Class III). In addition, the offshore pipelines for Clearwater Port would likely be installed in an existing pipeline corridor; therefore, commercial fishers already would be aware of the pipelines in this area. It is also likely that Crystal Energy would be required to adopt similar measures to compensate commercial fishers for lost gear (Class II). Other projects in the area would not contribute to adverse cumulative socioeconomic impacts. When considered in the context of other offshore projects, the Project would not contribute significantly to cumulative adverse socioeconomic impacts in the Project area (Class III).

Onshore

Several construction projects in the vicinity of the proposed pipeline are planned, some of which would be under construction at the same time as the proposed Project pipeline construction. Overall, it is not expected that these projects would require significantly more public services during construction (Class III). As these other projects are primarily residential, commercial, and industrial and do not require construction workers with the specific skills needed for the proposed Project, most of the workers for these other projects would probably be permanent residents. Because the long-term increase in population would be negligible when viewed in the cumulative context of the greater Project region, the impact would be less than the level of the significance criteria (Class III).

4.20.3.17 Transportation

The Project is not expected to add significantly to the cumulative impact on transportation. No public roads would be permanently eliminated or created by Project activities. Ventura County has plans to expand roads on portions of Hueneme Road, Pleasant Valley Road, Rice Avenue, and Santa Clara Avenue by 2010. If these activities occurred simultaneously with the installation of the Project pipeline, short-term cumulative impacts to traffic could occur (Class II). These impacts could include traffic slowdowns and/or detours that could last several days. Mitigation measures TRANS-1a, -2a, and -2b would reduce this impact to below its significance criteria, and other projects would likely have similar mitigation measures.

The exception would occur if the expansion of Santa Clara Avenue near Los Angeles Avenue were to happen simultaneously with the installation of the Project pipeline at this location. The cumulative effect of simultaneous construction could add traffic at this intersection during peak hours when this roadway is classified as level of service (LOS) E; therefore this could represent a Class I cumulative impact. However, if these activities occurred simultaneously, the disruptions may be longer; but repaving could be scheduled to only occur once instead of twice, and hence less potential damage would be done to the roads. Other road maintenance activities in the Project area could include repaving, clearing road shoulders, and similar activities. If these activities were to occur at the same time and place as the Project, short-term cumulative impacts to traffic could occur (Class II). These impacts would be limited to temporary disruptions such as slower traffic or detours lasting several days at a time. MM TRANS-1a, -1b, -5a, -5b, and -6a, as well as BMPs that would likely be used for the possible maintenance projects occurring concurrently, would reduce or eliminate any significant impacts.

If any of the proposed construction projects for Oxnard or Santa Clarita were to occur simultaneously with the proposed Project, a net increase in traffic in each respective area would result from workers and equipment going to and from the construction sites. These are temporary impacts that would cease at the end of construction.

The Project would reduce its contribution to local traffic by avoiding peak traffic periods (MM TRANS-1a), implementing traffic control plans (MM TRANS-2a), and implementing BMPs (MM TRANS-2b). These mitigation measures would reduce the impacts, but they could not be fully avoided. Therefore, if other local projects with similar impacts were to occur simultaneously, temporary cumulative impacts to the overall traffic conditions could occur (Class II).

Also, the contribution to degradation of roads from the Project would be mitigated through MM TRANS-6a, which requires the Applicant or its designated representative to repair roads to their pre-construction condition (Class II). Therefore, the Project would not contribute to cumulative impacts on roads.

In Santa Clarita, construction of the Line 225 Pipeline Loop route would require closure or rerouting of the South Fork Trailhead bike path for about 10 to 14 days (Class II). If construction of multiple projects were to occur concurrently in Santa Clarita, multiple bike paths could close or be rerouted temporarily. However, these closures would be temporary and rerouting of the paths during the short construction period is often possible. Therefore, this project would not contribute to cumulative impacts on bike trails.

4.20.3.18 Water Quality and Sediment Impacts

Offshore

The proposed Project would result in temporary discharges to marine and surface waters. Discharges from Crystal Energy's Clearwater Port project, the Grace

Mariculture Project, offshore oil platforms, industrial facilities, power generating facilities, and municipal wastewater could also impact water resources. Under normal conditions, the discharges from construction and operation of the FSRU would be relatively small and highly localized, would dissipate rapidly, and would not contribute to a cumulative impacts (Class III). Additionally, the activities that would result in discharges to marine water would require adherence to permit conditions and laws that regulate the quality and/or quantity of the discharges. Therefore, any adverse effects from normal operations of the Project would contribute negligibly to marine water quality cumulative impacts.

Cumulative impacts on marine water resources would occur as a result of sediment displacement only if FSRU and pipeline installation were concurrent and near another offshore construction project. No other local offshore construction projects are known to have a similar schedule. Furthermore, impacts as a result of sediment displacement would be highly localized. Therefore, cumulative impacts to offshore water resources from the cumulative projects would not be significant (Class III).

Onshore

Installation of the pipelines at Ormond Beach could result in impacts to local water quality. A feasibility study for a wetlands restoration project at Ormond Beach is currently underway. The restoration activities would be in the general vicinity of the proposed Project; however, the shore crossing would be installed using HDB below the beach and construction activities would occur within the Reliant Energy Ormond Beach Generating Station. The net impact of the wetlands restoration would be beneficial to water quality and sediments in that area. No additional projects are identified for the shore crossing area. Although construction of the proposed Project may occur simultaneously with the restoration project or other potential future projects, along the shoreline potential erosion would be minimal and localized and would not be likely to contribute to cumulative adverse effects on water quality.

The cumulative effects on onshore water resources as a result of construction at stream crossings could be adverse but could be mitigated through the implementation of MM WAT-3a, -4a through -4d, and MM GEO-1b to reduce the impact to a level that is less than the significance criteria (Class II). Based on permits and existing studies for the identified projects and the locations and types of water resources in the onshore Project area, the proposed Project would not contribute to any further degradation of surface water quality, primarily because activities that would result in temporary or short-term discharges to surface water would require adherence to permit conditions and BMPs that aim to reduce or avoid such impacts. Therefore, this Project would not contribute significantly to changes to local water quality and sediment.

4.20.3.19 Environmental Justice

In the event of a pipeline accident, the Project would result in potentially significant long-term public safety impacts that could disproportionately impact a low-income, minority community—the mobile home parks located on Pidduck and Dufau Roads near MP 4.1

of the proposed Center Road Pipeline, where a higher proportion of the residents are below the poverty level than in Ventura County and where the population is mostly Hispanic or Latino. The upgrading of pipeline construction to meet the criteria for Class 3 areas and the additional inspection, testing, reporting, and public education required for treating the mobile home parks as a high consequence area (HCA) would reduce the potential frequency of an incident occurring in this area. The installation of additional mainline valves equipped with either remote valve controls or automatic line break controls would reduce the potential consequences of an incident (Class II).

Crystal Energy's Clearwater Port would include pipelines that also traverse the City of Oxnard, Ventura County, and the City of Santa Clarita. HCAs would be determined for this project and evaluated in a separate EIS/EIR for that project.

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